

WADEABLE/LARGE RIVERS IN KANKAKEE (ILLINOIS) RIVER DRAINAGE HABITAT NARRATIVE

Habitat description

Rivers and streams of the Kankakee River (Illinois River) drainage are those found in northwest Indiana that flow west into Illinois and eventually the Illinois River. Headwater streams are those having a drainage area of < 20 mi². Headwater streams of the Kankakee River drainage are now highly modified, often manmade, sandy/muck bottom, channelized ditches, maintained to drain agricultural lands and control flooding.

Problems affecting species and habitats

Species threats

The respondent listed no “critical threats” to wildlife in wadeable/large rivers of Kankakee River drainage habitat. The respondent listed the following as “serious threat” (not ranked):

- Unintentional take/ direct mortality (e.g., vehicle collisions, power line collisions, by-catch, harvesting equipment, land preparation machinery)
- Habitat loss (breeding range)
- Habitat loss (feeding/foraging areas)

The respondent listed the following as “somewhat of a threat” (not ranked):

- High sensitivity to pollution
- Bioaccumulation of contaminants
- Dependence on other species (mutualism/pollinators)
- Viable reproductive population size or availability
- Specialized reproductive behavior or low reproductive rates
- Degradation of movement/migration routes (overwintering habitats, nesting and staging sites)

The respondent listed the following as “slight threat” to wildlife in wadeable/large rivers of Kankakee River drainage habitat (not ranked):

- Predators (native or domesticated)
- Unregulated collection pressure
- Dependence on irregular resources (cyclical annual variations) (e.g., food, water, habitat limited due to annual variations in availability)

The respondent listed no other threats to wildlife in wadeable/large rivers of the Kankakee River drainage habitat.

The respondent noted top threats to wildlife in wadeable/large rivers of Kankakee River drainage habitat (not ranked):

- Habitat loss and unintentional take
 - Cleaning and dredging of streams of the Kankakee drainage can result in a large amount of creek heelsplitters being lost
 - The tadpole madtom feeds in dense vegetation and hides from predators in the leaf litter, dead wood, and other cover. By removing vegetation and cover in streams, the tadpole madtom also loses spawning areas (they typically lay eggs under submerged objects)

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- Degradation of the stream channel will also increase the velocity of the current (if straightened or cleared of debris) that removes the tadpole madtom's preferred current-free, quiet habitat.
- Dependence on other species, such as requiring a fish host to reproduce
 - If fish populations decrease for any of a variety of reasons, then creek heelsplitter reproduction could decrease substantially

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the threats to wildlife in wadeable/large rivers of Kankakee River drainage habitats. There were no responses.

Habitat threats

The respondent ranked no "critical threats" to wadeable/large rivers of Kankakee River drainage habitat. The respondent listed the following as "serious threat" (not ranked):

- Habitat degradation
- Stream channelization
- Agricultural/forestry practices
- Point source pollution (continuing)

The respondent listed the following as "somewhat of a threat" (not ranked):

- Nonpoint source pollution (sedimentation and nutrients)
- Habitat fragmentation
- Impoundment of water/flow regulation
- Drainage practices (stormwater runoff)

The respondent listed the following as "slight threat" to wadeable/large rivers of Kankakee River drainage habitat (not ranked):

- Commercial or residential development (sprawl)
- Invasive/non-native species

The respondent listed no other threats to wadeable/large rivers of the Kankakee River drainage habitat.

The respondent noted top threats to wadeable/large rivers of Kankakee River drainage habitat:

- Habitat degradation and stream channelization cause loss of habitat and impact the mussels directly by killing them or taking them out of the habitat
- Non-point source pollution (sedimentation resulting in smothering of substrates and turbidity)

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the threats to wadeable/large rivers of Kankakee River drainage habitats. There were no responses.

Additional research and survey efforts

Current body of research

Species research

The respondent indicated that research on wildlife in wadeable/large rivers of Kankakee River drainage habitat is inadequate.

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Respondents did not identify citations (title, author, date, publisher) that would give the best overview of wildlife in wadeable/large rivers of Kankakee River drainage habitats in Indiana.

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the research for wildlife in wadeable/large rivers of Kankakee River drainage habitats. There were no responses.

Habitat research

The respondents indicated that research on wadeable/large rivers of Kankakee River drainage habitat is inadequate.

Respondents did not identify citations (title, author, date, publisher) that would give the best overview of wadeable/large rivers of Kankakee River drainage habitats in Indiana.

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the research for wadeable/large rivers of Kankakee River drainage habitats. There were no responses.

Research needs

Species research

The respondent listed no “urgently needed” or “greatly needed” research for wildlife in wadeable/large rivers of Kankakee River drainage habitat. The respondent noted that the following is “needed” (not ranked):

- Life cycle
- Distribution and abundance
- Limiting factors (food, shelter, water, breeding sites)
- Threats (predators/competition, contamination)
- Relationship/dependence on specific habitats
- Population health (genetic and physical)

The respondent listed no other research needs for wildlife in wadeable/large rivers of Kankakee River drainage habitat.

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the research needs for wildlife in wadeable/large rivers of Kankakee River drainage habitats. There were no responses.

Habitat research

The respondent indicated no “urgently needed” or “greatly research” for wadeable/large rivers of Kankakee River drainage habitat. The respondent cited the following research as “slightly needed:”

- Relationship/dependence on specific site conditions

The respondent listed no other research needs for wadeable/large rivers of Kankakee River drainage habitat.

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Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the research needs for wadeable/large rivers of Kankakee River drainage habitats. There were no responses.

Conservation actions necessary

Species actions

The respondent indicated that no conservation efforts address threats to wildlife in wadeable/large rivers of Kankakee River drainage habitat "very well." The following addresses threats to wildlife "somewhat" (not ranked):

- Population management (hunting, trapping)
- Regulation of collecting
- Public education to reduce human disturbance

The respondent listed no other conservation practices for wildlife in wadeable/large rivers of Kankakee River drainage habitat.

The respondent recommended the following practices to enhance wildlife in wadeable/large rivers of Kankakee River drainage habitat (not ranked):

- Protect habitat by limiting the amount of dredging that occurs in the Kankakee River watershed
- Reintroduction of least darter into suitable habitats that have been restored.

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the conservation practices for wildlife in wadeable/large rivers of Kankakee River drainage habitats. There were no responses.

Habitat actions

The respondent indicated that no conservation efforts address threats to wadeable/large rivers of Kankakee River drainage habitat. The respondent offered no additional conservation efforts to address this habitat.

The respondent indicated that the following conservation actions are needed in wadeable/large rivers of Kankakee River drainage habitat (not ranked):

- Any type of habitat protection or restoration
 - Regulation
 - Protect adjacent buffer zone
- Restrict disturbance
 - Dredging
 - Removal of debris

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the conservation efforts for wadeable/large rivers of Kankakee River drainage habitats. There were no responses.

Proposed plans for monitoring

Current monitoring

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Species monitoring

The respondent indicated that the following monitoring efforts are conducted by state agencies for wildlife in wadeable/large rivers of Kankakee River drainage habitat:

- Occasional statewide (less than once a year and not regularly scheduled) monitoring conducted by state agencies

The respondent was not aware of monitoring efforts conducted by other organizations for wildlife in wadeable/large rivers of Kankakee River drainage habitat. Therefore, the respondent found no efforts conducted by other organizations to be crucial.

The respondent considered no monitoring conducted by state agencies to be "very crucial" for wildlife in wadeable/large rivers of Kankakee River drainage habitat, but the following efforts were "somewhat crucial" (not ranked):

- Periodic statewide (less than once a year but still regularly scheduled) monitoring conducted by state agencies
- Periodic regional or local (less than once a year but still regularly scheduled) monitoring conducted by state agencies

The respondent listed the following monitoring by state agencies for wildlife in wadeable/large rivers of Kankakee River drainage habitat:

- Random locations within the Kankakee drainage

The respondents listed no monitoring efforts by other organizations for wildlife in wadeable/large rivers of Kankakee River drainage habitat.

According to the respondent, "professional survey/census" is the most "frequently used" technique for monitoring wildlife in wadeable/large rivers of Kankakee River drainage habitat. The respondent listed no techniques under categories "not used but possible with existing technology," or "not economically feasible."

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the monitoring efforts for wildlife in wadeable/large rivers of Kankakee River drainage habitats. There were no responses.

Habitat inventory and assessment

The respondent was not aware of inventory and assessment efforts for wadeable/large rivers of Kankakee River drainage habitat by state agencies or other organizations.

The respondent considered no inventory and assessment conducted by state agencies or other organizations as crucial for conservation of wadeable/large rivers of Kankakee River drainage habitat.

The respondent listed no state agencies or other organizations involved in inventory and assessment for wadeable/large rivers of Kankakee River drainage habitat.

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The respondents indicated that no techniques are used for inventory and assessment of wadeable/large rivers of Kankakee River drainage habitat. The respondents listed no techniques as “possible with existing technology and data” or “not economically feasible.”

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the inventory and assessment of wadeable/large rivers of Kankakee River drainage habitats. There were no responses.

Recommended monitoring

Species monitoring

The respondents recommended the following monitoring techniques for wildlife in wadeable/large rivers of Kankakee River drainage habitat:

- Professional surveys using timed searches, systematic sampling (Strayer and Smith 2003). See A guide to sampling freshwater mussel populations. American Fisheries Society Monograph 8. American Fisheries Society. Bethesda, Maryland. 103 pp.

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the monitoring techniques for wildlife in wadeable/large rivers of Kankakee River drainage habitats. There were no responses.

Habitat inventory and assessment

The respondents recommended no inventory and assessment technique for wadeable/large rivers of Kankakee River drainage habitat. The respondent stated, “No habitat inventory of any kind is necessary for creek heelsplitter habitat in the Kankakee drainage.”

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the inventory and assessment techniques for wadeable/large rivers of Kankakee River drainage habitats. There were no responses.